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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,704	01/05/2001	Lee D. Bergerson	TRW(VSSIM)4696	5186

26294 7590 01/09/2004

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EXAMINER

CULBRETH, ERIC D

ART UNIT	PAPER NUMBER
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3616

DATE MAILED: 01/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,704

Applicant(s)

BERGERSON ET AL.

Examiner

Eric D Culbreth

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27, 29-41 and 43-46 is/are pending in the application.
- 4a) Of the above claim(s) 6, 8-10, 12-14, 23-26 and 33-39 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-22, 27, 29-32, 40 and 41 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 11 and 43-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 41 and 46 are objected to because of the following informalities:

Claim 41 should depend from claim 40, not claim 33 (claim 33 was renumbered as claim 40 in paragraph 2 of Paper No. 11).

In claim 46, line 2, "device" should be "devices".

These changes were made by informal examiner's amendment in order to avoid applicant having to submit an entire other set of claims in order to make two corrections as required by current Office rules and practices. However, if the claims are modified further, these changes should be included.

Claim Rejections - 35 USC § 112

2. Claims 43-45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There would not appear to be support in the original specification for the dimensions given in claims 43-45.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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4. Claims 1-3, 7 and 43-46 as best understood are rejected under 35 U.S.C. 102(b) as being anticipated by Thorn (of record).

Thorn discloses occupant protection device 44 and a microelectromechanical system device (MEMS) 10 energizable to cause actuation of the protection device (note cartridges 12 which would be mechanical and printed circuit board 24, which would include microelectronics). The MEMS device is an energizable fluid source emitting a primary fluid into housing 16 guided to airbag 44 as broadly recited (claims 1-3)(i.e., primary in that it is necessary for inflation of the bag), and Thorn shows solid material in the cartridges 12 in Figure 4, and teaches solid propellant (pyrotechnics) at column 1, lines 35-40 (claim 7).

As the features of claims 43-45 are new matter, Thorn meets the positive limitations of these claims.

Regarding claim 46, as broadly recited, each of Thorn's cartridges 12 and its associated circuitry in the printed circuit board 24 makes up one of a plurality of MEMS devices with a plenum or chamber for storing pyrotechnic, and energizable fluid source.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 4-5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thorn in view of Faigle et al (U.S. Patent 5,460,405, of record).

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Thorn teaches a plurality of MEMS devices 12 as broadly recited and housing 16 directing primary fluid into the air bag but does not teach individually actuatable MEMS devices, although he does teach programming multiple generators to adapt to various conditions of the crash at column 2, lines 5-10. Faigle et al teaches in the last 4 lines of the Abstract setting off one or a plurality of sources of inflation fluid in response to collision and position signals. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Thorn to include individually actuatable MEMS devices as taught by Faigle et al in order to achieve Thorn's goal of adapting activation of the multiple gas generators to conditions (claim 4). In the combination Faigle et al teaches sequentially activating the desired number of fluid sources (column 4, line 65-column 5, line 3)(claims 5 and 11).

Response to Arguments

7. Applicant's arguments filed 10/20/03 have been fully considered but they are not persuasive.

On pages 13-18 of the remarks filed 10/20/03, the applicant argues that Thorn does not teach microelectromechanical systems (MEMS) because one of ordinary skill in the art would require the device to have both micro electrical and mechanical components. This is not persuasive because the definition given from the cited art does not expressly require both micro electrical and mechanical components, because all the mechanical components in applicant's elected embodiment are not micro components (i.e., if the MEMS device is one half wide and one half inch long as per claim 43, then the base 22 of applicant's invention is not a "micro" component; conversely, if the base at 1/2 inch x 1/2 inch is a "micro" component, then Thorn's

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cartridges are “micro” components), and because “micro” has not been defined (i.e., maybe Thorn’s cartridges are “micro” components (noting the end of page 14 of the remarks), as they are small compared to the entire size of the module; no definition exists of what a microcomponent is from the disclosure or from what has been cited as knowledge to one of ordinary skill in the art)). On page 15, the applicant argues that Thorn’s cartridges are not formed using integrated circuit batch technology. However, every single component of applicant’s invention (i.e., base 22) is not formed using integrated batch technology. Thorn’s printed circuit board 24 could be formed using integrated batch technology, as noted in the previous action; it is not necessary for Thorn to expressly state that integrated batch technology is used (just as applicant’s disclosure does not state this), and how the parts are formed is not patentably distinguishing in an article claim (MPEP 2113).

Contrary to applicant’s remarks on page 15, Thorn does teach a MEMS device in the combination of Thorn and Faigle et al as broadly recited, and hence claims 2-5, 7, and 11 are met (claims 6, 8-10 and 12-14 are nonelected).

Allowable Subject Matter

8. Claims 15-22, 27, 29-32 and 40-41 are allowed.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric D Culbreth whose telephone number is 703/308-0360. The examiner can normally be reached on Monday-Thursday, 9:30-7:00 alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 703-308-2089. The fax phone number for the organization where this application or proceeding is assigned is 703/746-3508.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Eric D Culbreth
Primary Examiner
Art Unit 3616



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